

- A2 3. (Amended) The antibody of Claim 1 wherein the Old World ape is *Pan troglodytes*, *Pan paniscus* or *Gorilla gorilla*.

REMARKS

Claims 1-31 are pending in the instant application. Claims 1-31 are subject to restriction and/or election requirement. The Applicant has cancelled Claim 2 and amended Claims 1 and 3 to clarify the instant invention. Claims 1 and 3, as amended, find support in the instant specification, at page 1, lines 26-34, page 6, line 10 to page 7, line 20, and elsewhere therein. Accordingly, no new matter has been introduced by these amendments.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned " Version with markings to show changes made."

RESPONSE TO RESTRICTION REQUIREMENT UNDER 35 U.S.C. § 121

At page 2 of the Restriction Requirement, the Examiner requires that the Applicant makes an election among 102 groups. The Examiner alleges that these groups lack unity of invention because they are drawn to different antibodies as the claimed antibodies can allegedly be made from a variety of methods or represent separate and distinct products which are used in materially different methods having different mode of operation, function and effects.

The Applicant provisionally elects Group I, drawn to an antibody comprising donor CDRs and framework regions from an Old World ape, consisting of Claims 2, 3, 4, and 1, 5, 6, 7, in part and as originally filed (or Claims 1 and 3-7 as accordingly amended), with traverse. The Applicant reserves the right to prosecute, in one or more patent applications, the canceled claim, the claims to non-elected inventions, the claims as originally filed, and any other claims supported by the specification.

SPECIES REQUIREMENT UNDER 35 U.S.C. § 121

The Applicant is further required under 35 U.S.C. § 121 to (1) elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable, and (2) list all claims readable thereon including those subsequently added.

The Applicant hereby specifically elects an antibody comprising donor CDRs derived from an antigen specific donor antibody of a non-human species and acceptor framework residues derived from an Old World ape that is a *Pan troglodytes*. This is the species claimed by Claim 4.

APPLICANT'S TRAVERSAL OF THE EXAMINER'S CLAIM GROUPINGS

The Applicant respectfully traverses the restriction requirements the Examiner has imposed on Claims 20-31 as originally filed. Specifically, the Applicant disagrees with the Examiner's allegation at page 17 of the Restriction Requirement that each of the framework region polynucleotide and amino acid sequences have different chemical structures which result in the need for a separate sequence database search for each sequence. For the reasons discussed below, the Applicant respectfully asserts that: 1) the sequences in the original claims should remain grouped together as they were originally filed in the claims; 2) the framework regions I-III and IV should be grouped together as one invention; and 3) the sequences of the framework regions should be examined by species.

It is well known in the art of antibody engineering that antibodies invariably consist of four polypeptides -- two heavy chains and two light chains -- joined to form a "Y" shaped molecule. The amino acid sequence in the N-terminal (110-130 amino acids) of the "Y" varies greatly among different antibodies, and is therefore called the variable region. As disclosed in the specification at page 4, line 22, the

variable regions form the antigen binding sites for antibodies. The variable region is further subdivided into the hypervariable complementarity determining regions (CDRs) and the more stable acceptor framework regions. The acceptor framework regions consist of amino acids that do not directly interact with the specific antigen, but provide the scaffolding support for CDRs. At the gene level, the framework regions were encoded by either the "V" or "J" gene segment.

The framework regions claimed in the originally filed application, especially the ones encoded by the same gene fragments, are highly conserved even though they are isolated from different species of animals and from different heavy or light chain regions, as demonstrated by the sequences in the Sequence Listing. For example, the framework regions listed in SEQ ID NOs: 10-18 and claimed by Claim 20 are structurally similar to each other. The search terms for one sequence in that group will necessarily be shared with another, and the Applicant respectfully submits that it would not be undue burden for the Examiner to search these sequences as grouped. Likewise, the search terms are shared by the sequences originally grouped in Claims 21-27. Therefore, the sequences grouped in Claims 20-27, as they are originally filed, should stay combined.

Further, although the Applicant claimed the framework regions encoded by the "V" segment separately from the framework region encoded by the "J" segment, he did so merely to identify gene products stemming from different segments of a same nucleotide, rather than to suggest that these products are distinct inventions. Indeed, it is impossible to produce antibody without having both the "V" and "J" gene segments, and the Examiner would have to search for the whole antibody sequence, even if these segments were laid out separately. To group the claims directing to all

framework regions as one invention thus will alleviate the Examiner's burden in doing searches, rather than enhance it.

Moreover, chimpanzee VH and Vk acceptors framework regions should be grouped together as one invention because VH and Vk acceptors are part of an engineered antibody based upon chimpanzee sequences and therefore are necessarily among the members of any chimpanzee antibody library. Similarly, the Applicant respectfully submits that cynomolgus VH and Vk acceptor framework regions should be grouped and examined together as one invention.

The nucleotides listed in Claims 28-31 should further be grouped by species and thereafter combined with claims directing to their acceptor framework sequences. The Applicant respectfully submits that it would not be unduly burdensome for the Examiner to search by species and libraries, especially where the nucleotides actually have the same sequence identifier numbers.

In light of the discussions above, the Applicant respectfully suggests grouping the claims as follows:

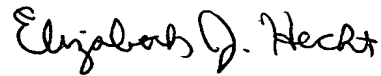
- I. Claims 2, 3, 4 and claims 1, 5, 6, 7, in part and as originally filed, drawn to antibody comprising donor CDRs and framework regions from an Old World ape.
- II. Claims 8-13 and claims 1, 5, 6, 7, in part and as originally filed, drawn to an antibody comprising donor CDRs and framework regions from an Old World monkey.
- III. Claims 14-16, drawn to a method of making an antibody comprising donor CDRs and framework regions from an Old World ape.
- IV. Claims 17-19, drawn to a method of making an antibody comprising donor CDRs and framework regions from an Old World monkey.

V. Claim 20-23 and 28-29, drawn to the isolated polypeptides and nucleotides encoding the acceptor framework I, II, III and IV as well as CDRs from chimpanzees.

VI. Claim 24-27 and 30-31, drawn to the isolated polypeptide and nucleotides encoding the acceptor framework I, II, III and IV as well as CDRs from cynomolgus.

The Applicant believes that this response is a full and complete response to the Restriction Requirement. If any matter remains to be resolved before allowance, or discussion of any matter will facilitate the prosecution of this application, the Examiner is invited to call the Applicant's undersigned attorney at the number provided.

Respectfully submitted,



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Version with Markings to Show Changes Made

In the Claims:

1. (Amended) An antibody comprising donor CDRs derived from an antigen-specific donor antibody of a non-human species and acceptor framework residues derived from [a non-human primate] an Old World ape.
3. (Amended) The antibody of Claim [2]1 wherein the Old World ape is *Pan troglodytes*, *Pan paniscus* or *Gorilla gorilla*.